IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
Re: Appeal to the Board of Patent Appeals and Interferences

Appellants:	Fish, et al.	Examiner:	Aradhana Sasan
Serial Number:	10/687,425	Group Art Unit:	1615
Filed:	October 16, 2003	Customer Number:	22827
Confirmation No:	7967	Deposit Account:	04-1403
Title:	Odor Absorbing Extrudates	Attorney Docket No.	KCX-838 (18843)

1. ☐ **NOTICE OF APPEAL**: Pursuant to 37 CFR 41.31, Applicant hereby appeals to the Board of Appeals and interferences from the last decision of the Examiner.
2. ☐ **PRE-APPEAL BRIEF REQUEST FOR REVIEW**: Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request. This request is being filed with a Notice of Appeal. The review is requested for the reason(s) stated on the attached sheet(s) [No more than five (5) pages may be provided.]
3. ☒ **BRIEF** on appeal in this application pursuant to 37 CFR 41.37 is transmitted herewith (1 copy).
4. ☐ An **ORAL HEARING** is respectfully requested under 37 CFR 41.47 (due within two months after Examiner's Answer).
5. ☐ Reply Brief under 37 CFR 41.41(b) is transmitted herewith (1 copy).
6. ☐ "Small entity" verified statement filed: [ ] herewith [ ] previously.
7. **FEE CALCULATION:**

		Fees
If box 1 above is X'd enter $	540.00	$ 0.00
If box 2 above is X'd enter $	0.00 (no fee)	$ 0.00
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PETITION is hereby made to extend the original due date of January 16, 2010, hereby made for an extension to cover the date this response is filed for which the requisite fee is enclosed (1 month $130; 2 months $490; 3 months $1,110; 4 months $1,730, 5 months $2,350 $ 0.00

SUBTOTAL: $ 540.00

Less any previous extension fee paid since above original due date. - $ 0.00

Less any previous fee paid for prior Notice of Appeal since Board did not render a decision on the merits. MPEP § 1204.01 - $ 0.00

Less any previous fee paid for submitting Brief on prior Appeal since

Board did not render a decision on the merits. MPEP § 1204.01	-	$ 0.00
SUBTOTAL:		$ 540.00
If "small entity" verified statement filed ☐ previously, ☐ herewith, enter one-half (½) of subtotal and subtract	-	$ 0.00
TOTAL FEE ENCLOSED:		$ 540.00

☐ Fee enclosed.

☐ Charge fee to our Deposit Account/Order Nos. in the heading hereof (for which purpose one additional copy of this sheet is attached)

☒ Charge to credit card (attach Credit Card Payment Form – PTO 2038)

☐ Fee NOT required since paid in prior appeal in which the Board of Appeals did not render a decision on the merits.

The Commissioner is hereby authorized to charge any fee specifically authorized hereafter, or any fees in addition to the fee(s) filed, or asserted to be filed, or which should have been filed herewith or concerning any paper filed hereafter, and which may be required under Rules 16-18 (deficiency only) now or hereafter relative to this application and the resulting official document under Rule 20, or credit any overpayment, to our Account No. shown in the heading hereof. This statement does not authorize charge of the issue fee in this case.

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Date: January 18, 2010

I hereby certify that this correspondence and all attachments and any fee(s) are being electronically transmitted via the internet to the U.S. Patent and Trademark Office using the Electronic Patent Filing System on January 18, 2010.

Sandra S. Perkins
(Typed or printed name of person transmitting documents)

Sandra S Perkins
(Signature of person transmitting documents)

PATENT
ATTORNEY DOCKET NO: KCX-838 (18843)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application: Fish et al.	)	Examiner: Aradhana Sasan
Serial No: 10/687,425	)	Group Art Unit: 1615
Filed: October 16, 2003	)	Deposit Account No: 04-1403
Confirmation No: 7967	)	Customer No: 22827
Title: Odor Absorbing Extrudates	)	

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

BRIEF ON APPEAL

Appellants submit the following brief on appeal in accordance with 37 C.F.R. § 41.37:

1. REAL PARTY IN INTEREST

The real party in interest in this matter is the assignee of record, Kimberly-Clark Worldwide, Inc.

2. RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences known to the Appellants or the Appellants' legal representative which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

3. STATUS OF CLAIMS

Currently, claims 56-63, 67-77, and 79-88 remain pending in the present application including independent claims 56, 76, and 84. Claims 77, 79, and 80 are

presently withdrawn. Claims 1-55, 64-66, and 78 were previously cancelled. All pending claims are attached hereto in the Claims Appendix.

In the Final Office Action of August 13, 2009, claims 56-63, 67-76, and 81-88 were finally rejected under 35 U.S.C. § 103(a).

The rejections of claims 56-63, 67-76, and 81-88 under §103(a) are hereby appealed.

4. STATUS OF AMENDMENTS

All amendments have been entered.

5. SUMMARY OF CLAIMED SUBJECT MATTER

In general, the present application is directed to an odor absorbing extrudate See, e.g., Title. For instance, independent claim 56 is directed to a breathable film comprising a thermoplastic polymer, filler, and silica nanoparticles. See, e.g. pg. 3, lines 21-24; pg. 4, lines 26-30; pg. 7, lines 22-24; pg. 11, line 27 – pg. 12, line 14. The filler and silica nanoparticles are blended together. See, e.g., pg. 7, lines 22-24; pg. 18, line 7 – pg. 19, line 8. The silica nanoparticles have a diameter of about 500 nanometers or less. See, e.g., pg. 11, lines 27-28. The silica nanoparticles also have a negative first Zeta Potential from about -1 to about -50 millivolts. See, e.g. pg. 13, lines 12-18. The silica nanoparticles are modified with a metal ion to form modified silica nanoparticles. See, e.g., pg. 12, line 15 – pg. 18, line 6. The metal ion is selected from the group consisting of copper ion, silver ion, gold ion, iron ion, and combinations thereof. See, e.g., pg. 12, line 27 – pg. 13, line 11. The modified silica nanoparticles comprise a second Zeta Potential being at least about 5.0 millivolts higher than said negative first Zeta Potential. See, e.g., pg. 12, lines 15-26.

Independent claim 76 is directed to a breathable film comprising a thermoplastic polymer, filler, and nanoparticles. See, e.g. pg. 3, lines 21-24; pg. 4, lines 26-30; pg. 7, lines 22-24; pg. 11, line 27 – pg. 12, line 14. The filler and nanoparticles are blended together. See, e.g., pg. 7, lines 22-24; pg. 18, line 7 – pg. 19, line 8. The nanoparticles have a diameter of about 500 nanometers or less. See, e.g., pg. 11, lines 27-28. The nanoparticles also have a positive first Zeta Potential from about 1 to about 70 millivolts. See, e.g., pg. 13, lines 19-25. The nanoparticles are modified with a metal ion to form modified nanoparticles. See, e.g., pg. 12, line 15 – pg. 18, line 6. The modified nanoparticles comprise a second Zeta Potential being at least about 5.0 millivolts lower than said positive first Zeta Potential. See, e.g., pg. 12, lines 15-26.

Independent claim 84 is directed to a personal care product comprising an outer cover. See, e.g., pg. 20, lines 7-25. The outer cover comprises a breathable film and has a WVTR of about 500 g/m^2/day or greater. See, e.g. pg. 3, lines 21-24. The breathable film comprises a thermoplastic polymer, filler, and nanoparticles. See, e.g. pg. 3, lines 21-24; pg. 4, lines 26-30; pg. 7, lines 22-24; pg. 11, line 27 – pg. 12, line 14. The filler and nanoparticles are blended together. See, e.g., pg. 7, lines 22-24; pg. 18, line 7 – pg. 19, line 8. The nanoparticles have a diameter of about 500 nanometers or less. See, e.g., pg. 11, lines 27-28. The nanoparticles are selected from the group consisting of silica, alumina, and combinations thereof. See, e.g., pg. 11, lines 27-30. The nanoparticles are modified with a metal ion to form modified nanoparticles. See, e.g., pg. 12, line 15 – pg. 18, line 6.

6. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

I. Claims 56-63, 67-73, and 84-88 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Application Publication No. 2002/0004350 (hereinafter "Morman") in view of U.S. Patent Application Publication No. 2002/0151634 (hereinafter "Rohrbaugh").

II. Claims 74 and 75 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Morman in view of Rohrbaugh and further in view of U.S. Patent Application Publication No. 2002/0022672 (hereinafter ("Thunhorst").

III. Claims 76 and 81-83 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Morman in view of Rohrbaugh and further in view of U.S. Patent Application Publication No. 2001/0051189 (hereinafter "Fernandez").

7. ARGUMENT

Appellants respectfully submit that the presently pending claims are patentable over the cited references and rejections.

I. Claims 56-63, 67-73, and 84-88 are patentable over Morman and Rohrbaugh.

Morman is directed to a film with high breathability.

Rohrbaugh is directed to coating compositions comprising nanoparticle systems.

A. Independent claim 56 is patentable over Morman and Rohrbaugh.

Independent claim 56 recites:

> A breathable film comprising a thermoplastic polymer and **a filler blended with silica nanoparticles**, wherein said silica nanoparticles have a diameter of about 500 nanometers or less and **a negative first Zeta Potential from about -1 to about -50 millivolts**, said silica nanoparticles being modified with a metal ion to form modified silica nanoparticles, said metal ion selected from the group consisting of copper

ion, silver ion, gold ion, iron ion, and combinations thereof, wherein said modified silica nanoparticles comprise **a second Zeta Potential being at least about 5.0 millivolts higher than said negative first Zeta Potential.**

1. **Morman and Rohrbaugh fail to teach or suggest silica nanoparticles with a first Zeta Potential from about -1 to about -50 millivolts and, upon modification with a copper ion, a second Zeta Potential at least 5.0 millivolts higher than the first Zeta Potential.**

To establish a *prima facie* case of obviousness, in addition to other requirements, the prior art references when combined must teach or suggest all the claim limitations. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). As noted above, independent claim 56 requires silica nanoparticles with a first Zeta Potential from about -1 to about -50 millivolts and, upon modification with a copper ion, a second Zeta Potential at least 5.0 millivolts higher than the first Zeta Potential. Appellants respectfully submit that the purported combination of references fail to obviate such limitations.

Rohrbaugh is directed to coating compositions comprising nanoparticle systems. The coating composition is to be used on soft surfaces such as fabrics, garments, textiles, and films. ¶ [0025]. The coating includes nanoparticles dispersed in a carrier. The nanoparticles are preferably layered clay materials, but can be inorganic metal oxides. ¶ [0046]. Rohrbaugh discloses that the inorganic metal oxides "may be silica- or alumina-based nanoparticles that are naturally occurring or synthetic." ¶ [0061]. Furthermore, the nanoparticles may be "functionalized." Inorganic salts of Cu^{+2} are among the functionalized surface molecules reported as possibilities. ¶ [0069]. Thus, Rohrbaugh is cited as allegedly disclosing Appellants' claimed nanoparticles and modified nanoparticles. Appellants respectfully disagree

Again, independent claim 56 requires silica nanoparticles with a negative first Zeta Potential from about -1 to about -50 millivolts and, upon modification with a copper ion, a second Zeta Potential at least 5.0 millivolts higher than the first Zeta Potential. Rohrbaugh fails to teach or suggest such a limitation. In an attempt to obviate this limitation, the Examiner points to the disclosure of Rohrbaugh that **silicate** inorganic nanoparticles may be suitable for use. Further, as support that Applicants' claimed **silica** nanoparticles has a negative first Zeta Potential of from about -1 to about -50, the Examiner points to paragraph [0049] of Rohrbaugh that states that "a sheet of an expandable layer **silicate** has a negative electric charge, and the electric charge is neutralized by the existence of alkali metal cations and/or alkaline earth metal cations."

However, Appellants respectfully note that "silica" nanoparticles are formed from silica (SiO_2). For example, Applicants disclose that a suitable silica nanoparticle is marketed under the tradename SNOWTEX® available from Nissan Chemical Industries. SNOWTEX®, for instance, is colloidal silica having a particle size range of 1-100 nanometers. Appellants respectfully submit that "silicate" may not be equated with silica (SiO_2). In contrast, one skilled in the art appreciates that silicates are typically charged compounds (e.g., the most widely utilized silicate is SiO_4^{-2}). This is consistent with Rohrbaugh's disclosure that the sheet of silicate has a negative charge.
Further, Appellants have additionally noted that electrical charge (such as the negative electrical charge of "silicates") may not be equated with Appellants' claimed range of first or second Zeta Potentials for "silica" nanoparticles. For instance, the following figure available at http://www.scielo.br/img/fbpe/aabc/v74n4/a07fig02.gif helps to illustrate zeta potential.

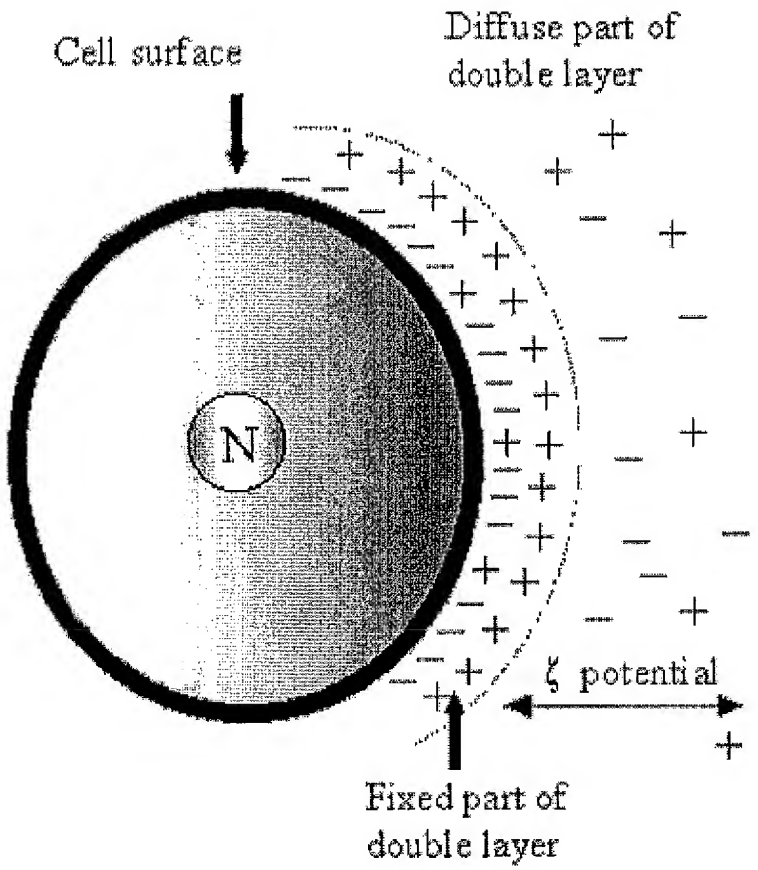

Fig. 2 – - The surface charge of a particle or cell influences the distribution of nearby ions in the polar medium. Ions of opposite charge (counter-ions) are attracted towards the surface and ions of like charge (co-ions) are repelled away from the surface. This leads to the formation of an electric double layer made up of the charged surface and a neutralizing excess of counter-ions over co-ions distributed in a diffuse manner in the polar medium. The electric double layer can be regarded generally as consisting of two regions: an inner or fixed region which may include adsorbed ions and a diffuse region in which ions are distributed according to the influence of electrical forces and random thermal motion. Electrokinetic or ζ (zeta) potential is measured on an imaginary plane (Stern plane) between the fixed part of double layer and the electrolyte solution (diffuse part of double layer).

Thus, the zeta potential is the electrokinetic potential not the ionic charge.

However, in a separate section, Rohrbaugh discloses "inorganic metal oxides used in the composition may be silica- or alumina-based nanoparticles that are naturally occurring or synthetic." ¶ [0061]. This disclosure of inorganic metal oxides involves

completely different elements than the disclosure of natural clays (such as silicates) cited by the Examiner as obviating negative Zeta Potentials (erroneously as noted above). Indeed, Rohrbaugh fails to include any disclosure that "silica-based" nanoparticles may have a negative Zeta Potential, let alone any teaching or suggestion to one skilled in the art to select silica nanoparticles that have a first negative Zeta Potential from about -1 to about -50. As one skilled in the art appreciates, not all "silica-based" nanoparticles necessarily have a negative Zeta Potential from about -1 to about -50. Furthermore, as Rohrbaugh includes no disclosure of any Zeta Potential or its importance, one skilled in the art would certainly not find it obvious to optimize the "silica-based" nanoparticles disclosed in Rohrbaugh to a negative first Zeta Potential of from about -1 to about -50 absent the teaching of Applicants' disclosure. Respectfully, using Applicant's disclosure as a blueprint to reconstruct the claimed invention out of isolated teachings in the prior art is improper under 35 U.S.C. § 103.

Furthermore, Appellants additionally claim modified nanoparticles comprising a second Zeta Potential being at least about 5.0 millivolts higher than the first Zeta Potential. As disclosed in the present specification, "the Zeta Potential change of the nanoparticle is related to the quantity of metal ions adsorbed onto the nanoparticle." Pg. 12, lines 17-18. Rohrbaugh includes no teaching or suggestion to one skilled in the art to control the amount of metal ions adsorbed onto the nanoparticle, let alone require enough metal ion association to affect a Zeta Potential at least about 5.0 millivolts higher than the first Zeta Potential. Again, one skilled in the art would have no teaching or suggestion to obtain modified nanoparticles with a second Zeta Potential at least about 5.0 millivolts higher than the first Zeta Potential absent Appellants' disclosure.

As such, Rohrbaugh fails to teach or suggest silca nanoparticles comprising a first Zeta Potential from about -1 to about -50 millivolts and, upon modification with a copper ion, a second Zeta Potential at least 5.0 millivolts higher than the first Zeta Potential. Indeed, the Examiner's holding that simply "it would be obvious" to one skilled in the art to utilize nanoparticles and modified nanoparticles with Appellants claimed first and second Zeta Potentials is merely a conclusory statement. Applicants note that rejections based on obviousness may not be sustained by mere conclusory statements, but must be based on articulated reasoning with some rational underpinning. KSR Int'l Co. v. Teleflex Inc., 127 S. Ct. 1727, 82 USPQ2d 1385, 1396 (2007).

2. Morman and Rohrbaugh fail to teach or suggest a film comprising filler blended with silica nanoparticles.

As noted above, independent claim 56 requires that the film comprises filler **blended with** the silica nanoparticles. For instance, Appellants disclose one embodiment wherein the filler, nanoparticles, and metal are combined in an aqueous solution. The solution is then dried to create a cake to be coextruded with the thermoplastic polymer (claim 88). In attempting to obviate this limitation, the Office Action states that:

> one of ordinary skill in the art would find it obvious to blend the nanoparticles of Rohrbaugh in the mixture of thermoplastic polymer and filler of Morman because Rohrbaugh teaches that "the materials that have been subjected to a high energy surface treatment and have a plurality of nanoparticles deposited thereon can be suitable for a great many uses including, but not limited to use to transport liquid in articles such as clothing containing hydrophobic or borderline hydrophilic fibers and in portions of disposable absorbent articles."

Appellants respectfully disagree. Rohrbaugh is cited as allegedly disclosing motivation to utilize the nanoparticle system with the product of Morman. However, in stark contrast, Rohrbaugh discloses a coating for surface coating soft surfaces such as fabrics, garments, textiles, and films. For instance, Fig. 1 of Rohrbaugh is reproduced below:

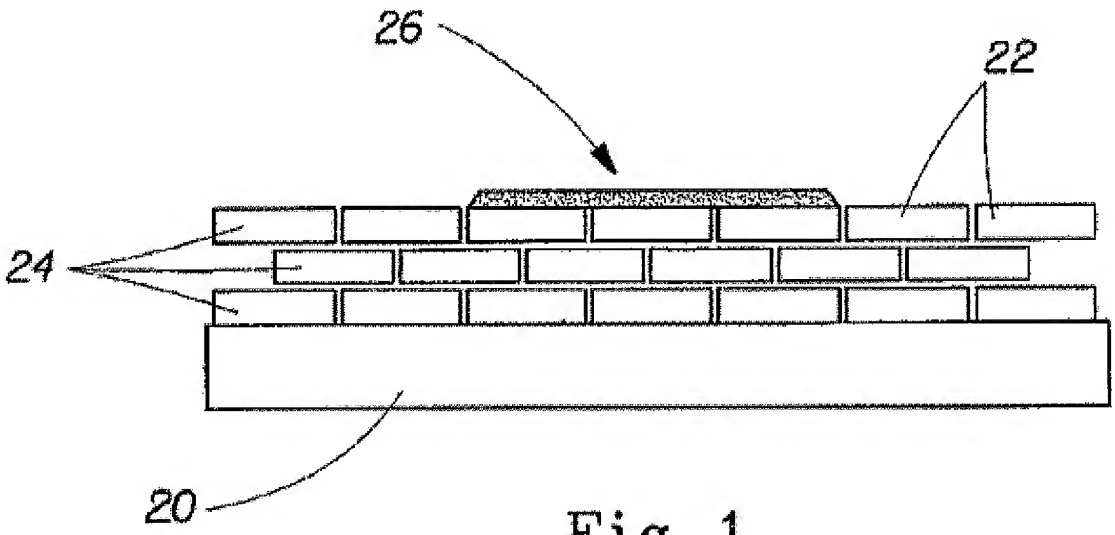

Fig. 1

As illustrated, the soft surface 20 includes layers 24 of nanoparticles 22 on the **surface**. Indeed, Rohrbaugh teaches "the present invention relates to **coating compositions** . . . comprising a nanoparticle system . . . to impart **surface modifying benefits** for all types of soft surfaces." ¶ [0002]. Rohrbaugh includes **no** teaching or suggestion to blend the nanoparticle system with the surface 20 (which may be a film (¶ [0025]). Indeed, one skilled in the art appreciates that such blending would destroy the purpose of the surface coating or, at the very least, significantly inhibit the benefits obtained from utilizing the "Coating Compositions for Modifying Surfaces" (title) of Rohrbaugh. One

skilled in the art would simply have no reasoning to **blend** the nanoparticle system of Rohrbaugh with the film of Morman without utilizing Appellants' disclosure as a blueprint to reconstruct the claimed invention out of isolated teachings in the prior art.

B. Independent claim 84 is patentable over Morman and Rohrbaugh.

Independent claim 56 recites:

> A personal care product comprising an outer cover, said outer cover comprising a breathable film and having a WVTR about 500 $g/m^2/day$ or greater, said breathable film comprising a thermoplastic polymer and **a filler blended with nanoparticles**, wherein said nanoparticles have a diameter of about 500 nanometers or less and selected from the group consisting of silica, alumina, and combinations thereof, wherein said nanoparticles are modified with a metal ion to form modified nanoparticles.

1. Morman and Rohrbaugh fail to teach or suggest nanoparticles selected from the group consisting of silica, alumina, and combinations thereof blended with a filler.

Independent claim 84 contains similar limitations to those argued above with respect to independent claim 56 in Arguments subheading **I.A.2.** Appellants incorporate the arguments of subheading I.A.2. here by reference. Morman and Rohrbaugh fail to obviate filler blended with nanoparticles. Indeed, Rohrbaugh teaches away from such blending.

C. Dependent claim 88 is patentable over Morman and Rohrbaugh.

Claim 88 depends from independent claim 56 and further requires that "said breathable film is formed by coextruding said thermoplastic polymer with said blend of filler and silica nanoparticles." Appellants respectfully submit that the cited references fail to obviate such a limitation. Furthermore, such a limitation would not be obvious in view of the "coating" layers of Rohrbaugh as discussed above.

II. Claims 74 and 75 are patentable over Morman, Rohrbaugh, and Thunhorst.

If an independent claim is nonobvious, then any claim depending therefrom is nonobvious. In re Fine, 837 F.2d 1071 (Fed. Cir. 1988). As such, Appellants respectfully submit that dependent claims 74 and 75 are patentable over Morman, Rohrbaugh, and Thunhorst for at least the reasons noted above with respect to independent claim 56. Thunhorst fails to remedy any of the deficiencies of Morman and Rohrbaugh noted above.

III. Claims 76 and 81-83 are patentable over Morman, Rohrbaugh, and Fernandez.

A. Independent claim 76 is patentable over Morman, Rohrbaugh, and Fernandez.

Independent claim 76 recites:

> A breathable film comprising a thermoplastic polymer and **a filler blended with nanoparticles**, wherein said nanoparticles have a diameter of about 500 nanometers or less and **a positive first Zeta Potential from about 1 to about 70 millivolts**, said nanoparticles being modified with a metal ion to form modified nanoparticles, wherein said modified nanoparticles comprise **a second Zeta Potential being at least about 5.0 millivolts lower than said positive first Zeta Potential**.

1. Morman, Rohrbaugh and Fernandez fail to teach or suggest nanoparticles with a first Zeta Potential from about 1 to about 70 millivolts and, upon modification with a metal ion, a second Zeta Potential at least 5.0 millivolts lower than the first Zeta Potential.

To establish a *prima facie* case of obviousness, in addition to other requirements, the prior art references when combined must teach or suggest all the claim limitations. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). As noted above, independent claim 76 requires nanoparticles with a first Zeta Potential from about 1 to about 70 millivolts and, upon modification with a metal ion, a second Zeta Potential at

least 5.0 millivolts lower than the first Zeta Potential. Appellants respectfully submit that the purported combination of references fail to obviate such limitations.

Fernandez is cited as allegedly disclosing nanoparticles comprising a positive Zeta Potential as claimed by Applicants in independent claim 76. However, Appellants respectfully submit that Fernandez fails to disclose nanoparticles comprising a positive Zeta Potential from about 1 to about 70 millivolts. Again, Fernandez discloses nanoparticles with a positive electrical charge which (as acknowledged by the Examiner on the record) may not be equated with Zeta Potential. Further, none of the cited references even reference Zeta Potential, let alone a positive first Zeta Potential as claimed by Appellants. Additionally, Rohrbaugh contains no teaching of any means of obtaining modified nanoparticles with a **lower** Zeta Potential upon modification. Indeed, Rohrbaugh only discloses positive "charged functionalities." One skilled in the art appreciates that none of the positive ions disclosed in the Rohrbaugh could yield such a limitation.

2. Morman, Rohrbaugh, and Fernandez fail to teach or suggest a film comprising filler blended with nanoparticles.

Independent claim 76 contains similar limitations to those argued above with respect to independent claim 56 in Arguments subheading **I.A.2.** Appellants incorporate the arguments of subheading I.A.2. here by reference. Morman and Rohrbaugh fail to obviate filler blended with nanoparticles. Indeed, Rohrbaugh teaches away from such blending. Fernandez does not remedy such deficiencies.

In conclusion, Appellants request favorable action and allowance of the presently pending claims.

Respectfully requested,

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8. CLAIMS APPENDIX

1-55. (Cancelled)

56. (Rejected) A breathable film comprising a thermoplastic polymer and a filler blended with silica nanoparticles, wherein said silica nanoparticles have a diameter of about 500 nanometers or less and a negative first Zeta Potential from about -1 to about -50 millivolts, said silica nanoparticles being modified with a metal ion to form modified silica nanoparticles, said metal ion selected from the group consisting of copper ion, silver ion, gold ion, iron ion, and combinations thereof, wherein said modified silica nanoparticles comprise a second Zeta Potential being at least about 5.0 millivolts higher than said negative first Zeta Potential.

57. (Rejected) The breathable film of claim 56, wherein the filler comprises at least 35% by weight of said breathable film.

58. (Rejected) The breathable film of claim 56, wherein the filler comprises from about 45% to about 65% by weight of said breathable film.

59. (Rejected) The breathable film of claim 56, wherein the filler has an average particle size of about 0.1 microns to about 10 microns.

60. (Rejected) The breathable film of claim 56, wherein the filler is coated with a fatty acid.

61. (Rejected) The breathable film of claim 56, wherein the filler is selected from the group consisting of calcium carbonate, clays, silica, alumina, barium sulfate, talc, magnesium sulfate, titanium dioxide, zeolites, aluminum sulfate, cellulose powders, diatomaceous earth, gypsum, magnesium sulfate, magnesium carbonate, barium carbonate, kaolin, mica, carbon, magnesium oxide, aluminum hydroxide, pulp powder,

wood powder, cellulose derivatives, polymeric particles, chitin, chitin derivatives, and combinations thereof.

62. (Rejected) The breathable film of claim 56, wherein the filler comprises calcium carbonate.

63. (Rejected) The breathable film of claim 56, wherein said negative first Zeta Potential is from about -1 to about -20 millivolts.

64-66. (Cancelled)

67. (Rejected) The breathable film of claim 56, wherein said film has a WVTR of at least 300 $g/m^2/day$.

68. (Rejected) The breathable film of claim 56, wherein said film has a WVTR of at least 500 $g/m^2/day$.

69. (Rejected) The breathable film of claim 56, wherein the surface area of said silica nanoparticles is at least 100 m^2/g.

70. (Rejected) The breathable film of claim 56, wherein the surface area of said silica nanoparticles is at least 200 m^2/g.

71. (Rejected) The breathable film of claim 56, wherein the surface area of said silica nanoparticles is at least 500 m^2/g.

72. (Rejected) The breathable film of claim 56, wherein the thermoplastic polymer is a polyolefin.

73. (Rejected) The breathable film of claim 56, wherein said metal ions are adsorbed onto said silica nanoparticles to form said modified silica_nanoparticles.

74. (Rejected) The breathable film of claim 56, wherein said metal ions are bonded to said silica nanoparticles via coordinate bonds, covalent bonds, or mixtures thereof to form said modified nanoparticles.

75. (Rejected) The breathable film of claim 56, wherein said metal ions are coupled to said silica nanoparticles with an organofunctional silane to form said modified silica nanoparticles.

76. (Rejected) A breathable film comprising a thermoplastic polymer and a filler blended with nanoparticles, wherein said nanoparticles have a diameter of about 500 nanometers or less and a positive first Zeta Potential from about 1 to about 70 millivolts, said nanoparticles being modified with a metal ion to form modified nanoparticles, wherein said modified nanoparticles comprise a second Zeta Potential being at least about 5.0 millivolts lower than said positive first Zeta Potential.

77. (Withdrawn) The breathable film of claim 76, wherein said nanoparticles are alumina nanoparticles.

78. (Canceled)

79. (Withdrawn) The breathable film of claim 76, wherein said metal ion is selected from the group consisting of permanganate ion, chlorite ion, persulfate ion, and combinations thereof.

80. (Withdrawn) The breathable film of claim 79, wherein said metal ion is permanganate ion.

81. (Rejected) The breathable film of claim 76, wherein said metal ions are adsorbed onto said nanoparticles to form said modified nanoparticles.

82. (Rejected) The breathable film of claim 76, wherein said metal ions are bonded to said nanoparticles via coordinate bonds, covalent bonds, or mixtures thereof to form said modified nanoparticles.

83. (Rejected) The breathable film of claim 76, wherein said metal ions are coupled to said nanoparticles with an organofunctional silane to form said modified nanoparticles.

84. (Rejected) A personal care product comprising an outer cover, said outer cover comprising a breathable film and having a WVTR about 500 g/m^2/day or greater, said breathable film comprising a thermoplastic polymer and a filler blended with nanoparticles, wherein said nanoparticles have a diameter of about 500 nanometers or less and selected from the group consisting of silica, alumina, and combinations thereof, wherein said nanoparticles are modified with a metal ion to form modified nanoparticles.

85. (Rejected) The personal care product of claim 84 further comprising a nonwoven fabric laminated to said breathable film.

86. (Rejected) The personal care product of claim 84, wherein the personal care product is a diaper.

87. (Rejected) The personal care product of claim 84, wherein the personal care product is an adult incontinence product.

88. (Rejected) The breathable film of claim 56, wherein said breathable film is formed by coextruding said thermoplastic polymer with said blend of filler and silica nanoparticles.

9. EVIDENCE APPENDIX

None

10. RELATED PROCEEDINGS APPENDIX

None